

METHOD AND APPARATUS FOR DETECTING ABERRATIONS IN A PROJECTION LENS UTILIZED FOR PROJECTION OPTICS

ABSTRACT

A method of detecting aberrations associated with a projection lens utilized in an optical lithography system. The method includes the steps of forming a mask for transferring a lithographic pattern onto a substrate, forming a plurality of non-resolvable features disposed on the mask, where the plurality of non-resolvable features are arranged so as to form a predetermined pattern on the substrate, exposing the mask using an optical exposure tool so as to print the mask on the substrate, and analyzing the position of the predetermined pattern formed on the substrate and the position of the plurality of non-resolvable features disposed on the mask so as to determine if there is an aberration. If the position of the predetermined pattern formed on the substrate differs from an expected position, which is determined from the position of the plurality of non-resolvable features, this shift from the expected position indicates the presence of an aberration.